



WORKPLACE SAFETY AND HEALTH IN COLORADO

*From The
National Institute for Occupational Safety and Health*



State Profile 2002

*Delivering on the Nation's promise:
Safety and health at work for all people through prevention.*

The National Institute for Occupational Safety and Health

NIOSH is the primary federal agency responsible for conducting research and making recommendations for the prevention of work-related illness and injury. NIOSH is located in the Department of Health and Human Services in the Centers for Disease Control and Prevention. The NIOSH mission is to provide national and world leadership to prevent work-related illness, injury, disability, and death by gathering information, conducting scientific research, and translating the knowledge gained into products and services. As part of its mission, NIOSH supports programs in every state to improve the health and safety of workers. NIOSH has developed this document to highlight recent NIOSH programs important to workers and employers in Colorado.

The Burden of Occupational Illness and Injury in Colorado

- In Colorado, there are approximately 2.2 million individuals employed in the workforce.¹
- In 2000, 117 workers died as a result of workplace injuries.²
- The services industry had the highest number of fatalities, followed second by construction, and third by the transportation and public utilities industry.²
- In 1999, the most recent year for which data are available, the rate of fatal workplace injuries was 4.4 deaths per 100,000 workers – below the national average rate of 4.5 deaths per 100,000 workers.²

The Cost of Occupational Injury and Illness in Colorado

In 2000, the most recent year for which data are available, a total of \$768.8 million was paid for workers' compensation claims by Colorado private insurers, self-insured employers, and state funds.³ This figure does not include compensation paid to workers employed by the federal government and also underestimates the total financial burden for private sector businesses, since only a fraction of health care costs and earnings lost through work injuries and illnesses is covered by workers' compensation. Chronic occupational illnesses like cancer are substantially under-reported in workers' compensation systems because work-relatedness is often difficult to establish.

How NIOSH Prevents Worker Injuries and Diseases in Colorado

Health Hazard Evaluations (HHEs) and Technical Assistance

NIOSH evaluates workplace hazards and recommends solutions when requested by employers, workers, or state or federal agencies. Since 1993, NIOSH has responded to 134 requests for HHEs in Colorado in a variety of industrial settings, including the following example:

Weld County, Colorado: Exposures to Household Hazardous Waste

In January 2000, NIOSH responded to a request for an HHE from the Weld County Department of Health and Environment to assess potential employee exposures at the county's two household hazardous waste facilities. The Health Department needed assistance in establishing baseline exposure data and determining potential chronic health effects related to employee exposures at the facilities. NIOSH investigators concluded there were no exposures to volatile organic compounds approaching or in excess of recommended occupational exposure limits. However, there was potential for spilling chemicals and for skin exposure or ingestion of chemicals through contaminated hands and food. NIOSH recommended that employers: provide employees eating facilities separate from the chemical handling area and computer on-line capabilities to access information on chemicals at the site; ensure employees never sniff containers to identify their contents; seal the floor in the chemical handling area to prevent absorption of spilled chemicals; ensure volatile chemicals are handled under local exhaust ventilation; train employees to handle and classify chemicals; ensure employees follow personal protective equipment guidelines; and monitor changes in employee health status.

Fatality Assessment and Control Evaluation (FACE) Investigations

NIOSH developed the FACE program to identify work situations with a high risk of fatality and to formulate and disseminate prevention strategies. Since 1995, there have been eight FACE investigations in Colorado, including the following example:

Colorado: Landscaper Dies after Falling from Truck

In February 1996, a 54-year-old landscaper was using a boom truck, designed to load logs onto a truck's bed, to move a large landscaping rock that exceeded the lifting capacity of the equipment. The weight of the rock caused the right rear wheels of the truck to leave the ground. The victim released the rock, the truck wheels dropped to the ground, and the victim was catapulted from his seat that was not equipped with a seatbelt. He died 33 days later. FACE investigators recommended employees utilize proper equipment for any specific task and employers develop and implement comprehensive safety programs.

Building State Capacity

NIOSH Field Office in Colorado

There is a NIOSH field office in Denver, Colorado, employing five individuals. A variety of research is conducted there, from biomedical research conducted in the laboratory to hazard prevention methods applied in the field.

High Plains Intermountain Center for Agricultural Health and Safety

NIOSH funds the High Plains Intermountain Center for Agricultural Health and Safety, one of ten NIOSH Centers for Agricultural Disease and Injury Research, Education, and Prevention nationwide. Located at the Colorado State University campus in Fort Collins, the Center aims to reduce and eliminate injuries, diseases, and deaths resulting from agricultural operations through education, intervention, and research. Diverse

research topics include assessing the health effects of exposure to grain dust, understanding farmer perceptions and practices regarding safety and health, and developing engineering controls to increase tractor safety.

Graduate Training Programs

NIOSH funds a nationally recognized training program at Colorado State University that offers undergraduate and graduate degrees in industrial hygiene. In fiscal year 2001, 118 students were enrolled and 34 were graduated. At Trinidad State Junior College, NIOSH funds a program providing associate degree level distance-learning training in occupational safety. In fiscal year 2001, 129 students were enrolled and nine students were graduated; nineteen continuing education courses were conducted for 411 practicing safety professionals. NIOSH also funds a program at the University of Colorado that provides training for occupational medicine physicians, medical students, and graduate level public health students. In fiscal year 2001, two residents were enrolled and one resident was graduated.

Extramural Programs Funded by NIOSH

The following are examples of recent research contracts, research grants, training grants, or cooperative agreements funded by NIOSH in the state of Colorado.

Dose of Beryllium Causing Sensitization and Disease

Exposure to beryllium continues to produce beryllium sensitization (BeS) and chronic beryllium disease (CBD) in 2-16% of exposed workers, but the dose sufficient to cause these adverse health effects remains unknown. NIOSH is supporting research at the National Jewish Medical and Research Center to determine the beryllium dose and characterize the beryllium aerosol and lung deposition that cause BeS and CBD in beryllium machinists.

Exposure Assessment Methods

With support from NIOSH, researchers at the University of Colorado Health Sciences Center will expand upon current epidemiologic studies of radiation workers at the Rocky Flats Environmental Technology Site to explore measurement errors in quantifying exposures and their effects on estimates of risk in epidemiologic studies.

Establishment of the Western Mining Resource Center (WMRC) at Colorado School of Mines

WMRC was created to address the research and training needs of Western mining constituencies. Technical courses will be expanded, selected courses will be converted to distance delivery format, and curricula will be prepared for manager training in human behavior, leadership, and safety and health program management. Research will focus on areas identified by the Risk Matrix and Gap Areas Matrix developed by NIOSH to produce results that will improve the health and safety of Western miners.

Additional information regarding NIOSH services and activities can be accessed through the NIOSH home page at <http://www.cdc.gov/niosh/homepage.html> or by calling the NIOSH 800-number at 1-800-356-NIOSH (1-800-356-4674).

¹U.S. Department of Labor (DOL), Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics, Current Population Survey, 2000.

²DOL, BLS in cooperation with state and federal agencies, Census of Fatal Occupational Injuries, 1999-2000.

³National Academy of Social Insurance, *Workers' Compensation: Benefits, Coverage, and Costs, 2000 New Estimates*, May 2002.